

Dixie Caverns County Landfill

Roanoke County, Virginia
Superfund Program Site Fact Sheet

Type of Facility: Disposal Site for Municipal Refuse, Solvents, and Fly Ash

Contaminants: Lead, Cadmium, Zinc, Silver, Iron, Benzene, Substituted Benzene, Chlorinated Ethane, and Polynuclear Aromatic Hydrocarbons (PAHs)

Funding: Enforcement Financed

Site Description and History

Roanoke County, Virginia operated Dixie Caverns County Landfill as a disposal site for municipal refuse, solvents, and fly ash from 1965 to 1976. From 1967 to 1975, electric arc furnace air emission control dust from the Roanoke Electric Steel Corporation was taken to the site and disposed in a fly ash pile. When the landfill was closed in 1976, it was not capped. An intermittent stream on the site flowed through a large drum pile and the fly ash pile, and emptied into the Roanoke River approximately two miles southeast of the landfill. There was also a sludge disposal pit on site.

In the fall of 1987, the County of Roanoke entered a Consent Agreement and Order with the Environmental Protection Agency (EPA) that required the county to clean the site. The site was placed on the National Priorities List (NPL) in October 1989. Negotiations for the Remedial Design/Remedial Action (RD/RA) Consent Decree concluded in June 1993. The County of Roanoke and Roanoke Electric Steel Corporation agreed to clean up the fly ash pile, reimburse EPA more than \$1.27 million in past response costs, and pay all future costs associated with the cleanup.

There were four areas of the site that required remediation: the drum disposal area, the solvent contaminated sludge pit, the fly ash disposal area (ash from the electric arc furnace), and the stream area. A removal action was performed in 1988 to dispose of drums and contaminated sludge from the sludge pit.

The Operable Unit 1 (OU-1) Record of Decision (ROD) addressing the fly ash was signed in September 1991. High temperature metals recovery of lead and zinc was the chosen remedy. Remedial action began in August 1994 and was completed in August 1995. On August 30, 1995, EPA and the State conducted a final inspection of the removal and OU-1 remedial actions. There was no operation and maintenance phase for this OU.

OU-2 covered the remainder of the site. After a Removal Order addressing stream sediments was signed in August 1992, EPA issued a no further action ROD for OU-2, based on the rationale that all risks posed by the remainder of the site had been or were to be addressed under prior and current remedial and removal actions. The removal action to extract ash sediment from the stream and encapsulate it on site began in 1995, and was completed in 1997. Stream restoration completed in the summer of 1997 was the last major remedial activity on the site. Monitoring well abandonment, detention pond clean out, and landfill capping were completed by the fall of 1997. The first Five Year Review for the site was completed in the summer of 2001.

Threats and Contaminants

The on-site sludge pit soil was contaminated primarily with aromatic and polycyclic aromatic hydrocarbons (PAHs). Also, the drum disposal area was contaminated with organic chemicals. In addition, runoff water from the fly ash pile contaminated stream sediments immediately downstream of the site with ash and metals. Prior to the cleanup completed in 1997, conditions at the site were a threat to surface waters in the area; however, residential wells that were tested did not show site contamination.

Current Site Status

The site was delisted from the National Priorities List in September 2001. The next Five Year Review will be completed in 2006 to ensure that the remedy is protective and functioning properly.

Community Relations and Concerns

An estimated 1,990 people live within 3 miles of the site and are served by private water supply wells. The closest home is 1/2 mile south of the site. The Dixie Caverns, a local tourist attraction, is a mile downstream of the site.

EPA scheduled a final on-site public review of the remediated site for the fall of 1997. The intent of the meeting was to show the completed work and answer questions and concerns. When the Potentially Responsible Parties (PRP) (Roanoke Steel Company and Roanoke County) declined to participate in the public meeting, EPA canceled the function.

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